5.6/31) $\frac{e^x - e^{-x}}{2} = t$

$e^x(e^x - e^{-x}) = (2t)e^x$

$(e^x)^2 - 1 = 2te^x$

$(e^x)^2 - 2te^x - 1 = 0$ $\quad y^2 - 2ty - 1 = 0$

$\ln(e^x) = \ln\left(t \pm \sqrt{t^2+1}\right)$

$y = \frac{2t \pm \sqrt{4t^2 - 4(-1)}}{2}$

$= t \pm \frac{\sqrt{4}\sqrt{t^2+1}}{2}$

$y = t \pm \sqrt{t^2+1}$

$x = \ln\left(t \pm \sqrt{t^2+1}\right)$

$$\cos^2 x + \frac{1}{4} = \cos x$$

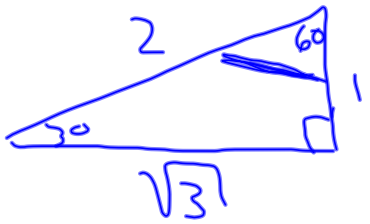
$$(\cos x)^2 - (\cos x) + \frac{1}{4} = 0$$

$$k^2 - k + \frac{1}{4} = 0$$

$[k = \cos x]$

$$\left(k - \frac{1}{2}\right)^2 = 0$$

$$k = \frac{1}{2} \Rightarrow \cos x = \frac{1}{2}$$



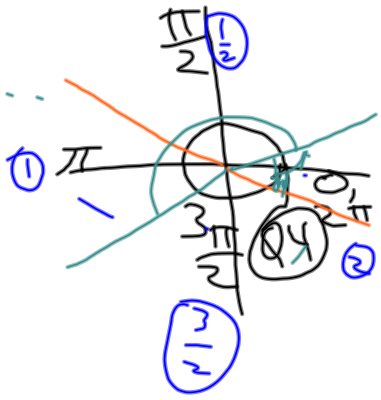
$$x = 60^\circ + 2n\pi \quad \text{plus} \ldots$$

$$-60^\circ + 2n\pi$$

TWO related $\angle$ in each of 4 Qs.

$$\theta = -\frac{15\pi}{7}$$

Quadrant that $-\frac{15\pi}{7}$ is . . .



$$-\frac{15}{7} \approx -2.14 \text{ or } -2\frac{1}{7}$$

Q1: $+\frac{15\pi}{7}$, $+\frac{\pi}{7}$

Q2: $-\frac{8\pi}{7}$, $\frac{6\pi}{7}$

Q3: $\frac{8\pi}{7}$, $\frac{22\pi}{7}$

Q4: $-\frac{15\pi}{7}$, $-\frac{\pi}{7}$

3 ft = 1 yds

(32) 6 ft = 2 yds

3 yds = 9 ft

π radians = 180 degrees

2.14 π radians = (180)(2.14) degrees

5.5/35 $\frac{\log a}{\log b} = \log\left(\frac{a}{b}\right)$

Find values of a & b that make this FALSE

$\log\left(\frac{a}{b}\right) = \log a - \log b$

$\frac{\log a}{\log b} = \log a - \log b$ FALSE

ever true?

	a	b		
		0	HONK	
F	2	3	$\frac{\log 2}{\log 3} = .6309$	$\log 2 - \log 3 = -.176$
F	5	7	$\frac{\log 5}{\log 7} = .827$	$\log 5 - \log 7 = -.46$

Graph $y = 4\sin\left(x - \frac{\pi}{3}\right) + 2$